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I X L

# Steel Sections

(Patented.)

—FOR—

Fire-proof Floors, Mills, Factories,

Bridge Floors, Roofs, Partitions,

Non-Combustible Studding,

and Structures of all kinds.

The I X L Structural Steel Co.

No. 143 Liberty Street,

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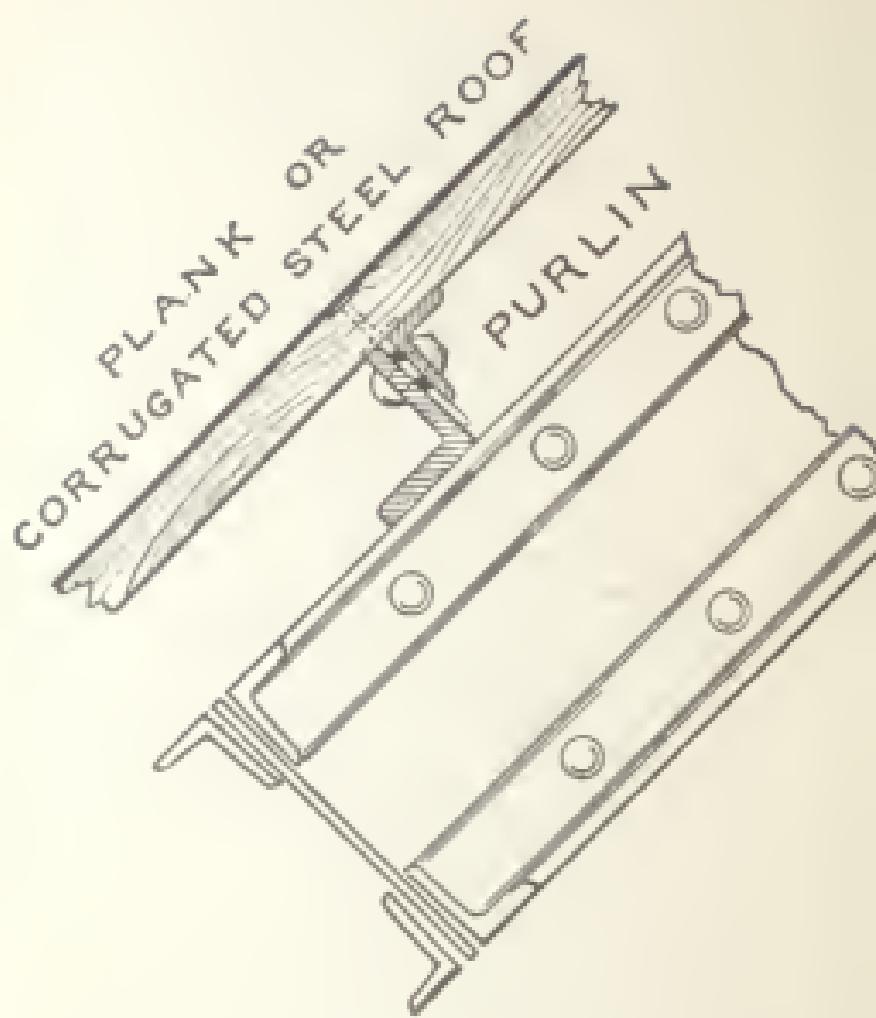


Fig. 1.

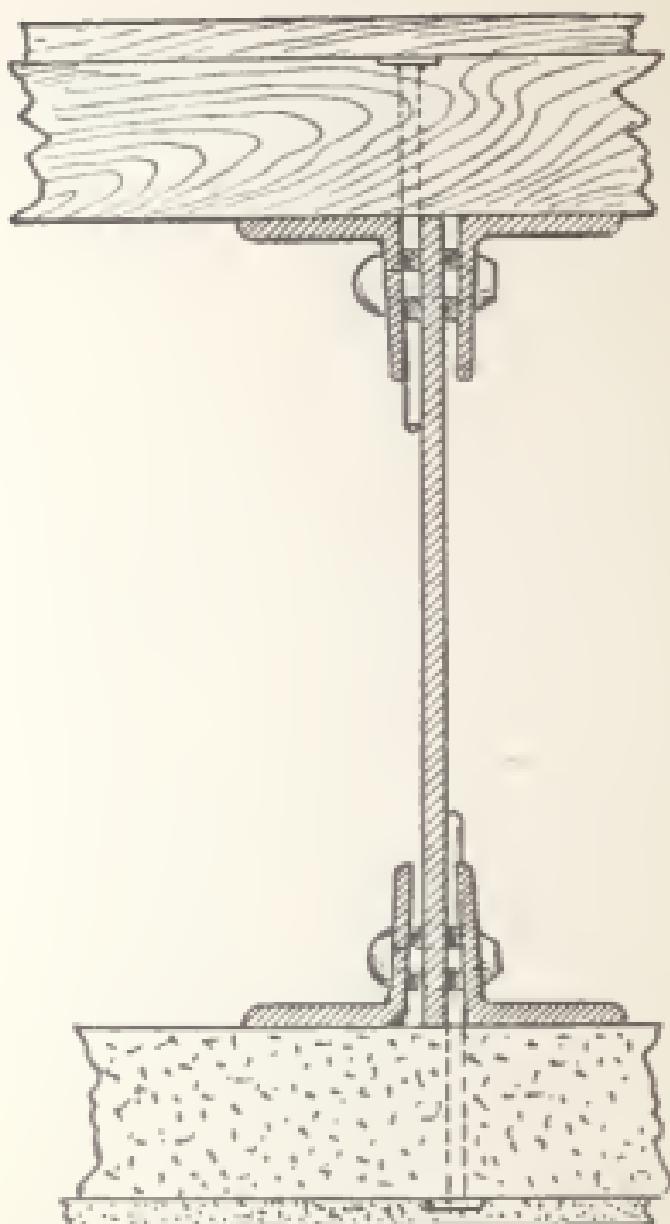
# I X L Steel Sections.

(Patented.)

These sections are riveted together of the standard rolled shapes, leaving one or more open converging spaces between them as shown herewith, so that nails or spikes driven into and through the said spaces will be firmly and effectually clamped or held in place by the spring of the adjacent angle piece.

I X L Sections are specially designed and adapted for the direct fastening of timber floors or ceilings thereto, for metallic studing in combination with the many styles of metallic siding and roofing, such as corrugated, pressed or plain sheets, metallic clothing, wire lathing, etc.

Plaster boards, porous terra cotta and all other fire proof material can also be simply and substantially nailed to these sections at any desirable point and without any previous



POROUS TERRA COTTA.

Fig. 2.

preparation, thus saving labor in drilling and punching, saving time required for fitting or marking out holes and saving skilled labor in erecting. The nails or spikes preferably used are the regular styles of steel wire nails of an equal thickness from end to end. If provided with indentations or serrations the grip is somewhat better, but this is not essential as the force required to spring the angles is more than sufficient to hold a perfectly smooth nail.

The sections are made to any desirable dimensions or strength. Architects, Engineers and Constructors generally will find them useful when used as columns or uprights of any kind on account of the facility with which beam, girder and other connections can be made thereto.

To those desiring a completely fire-proof structure, the advantages of these sections will be obvious, especially where corrugated iron is used for the siding or roofing; wooden studding in this connection always being a source of danger and expense for insurance.

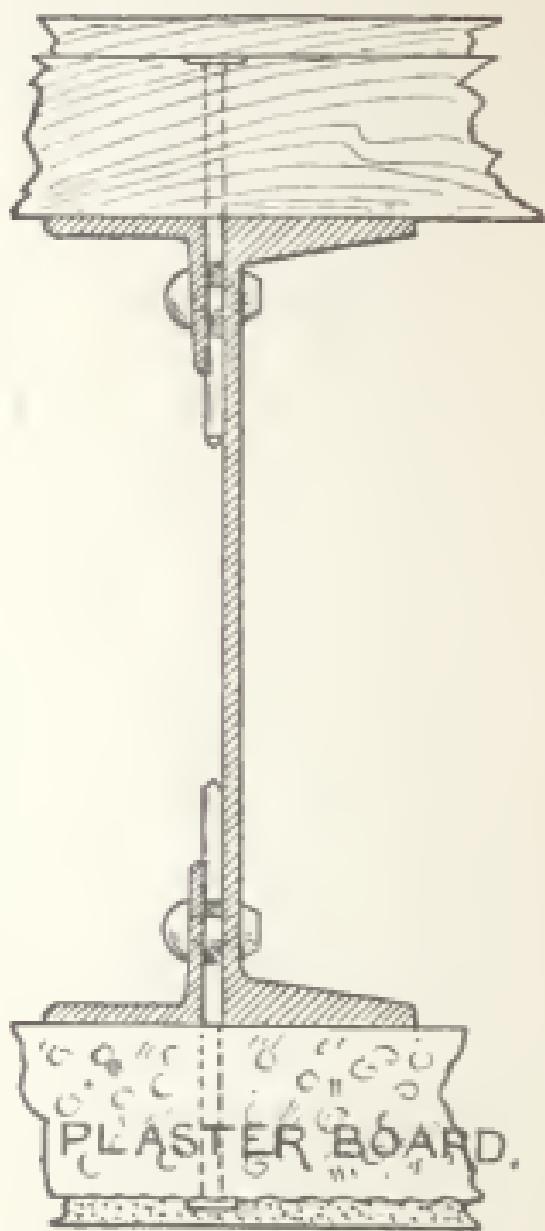


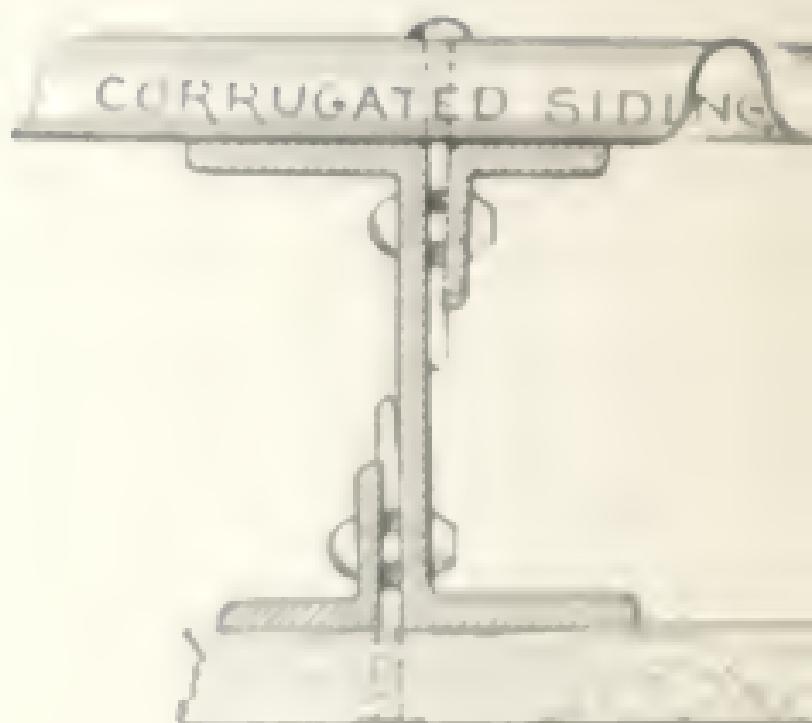
Fig. 3.

The illustrations herewith will explain a few of the many applications of the I X L Beams.

Fig. 1 illustrates an I X L Section as used for roof purlins in place of the usual wooden ones, and decreases very materially the amount of combustible used in the construction of the roof. The purlin is riveted or bolted to the truss in the usual way, but the roof plank is directly nailed or spiked to the purlin at every bearing. Corrugated iron or steel can be put on in a similar manner, and when provided with the non-condensing fire-proof material now on the market, it makes an excellent roof.

Fig. 2 shows a heavy plank floor spiked directly to the beam and with the finished floor on top. The lower side of the beam is protected by porous terra cotta nailed on from below.

Fig. 3 is a beam composed of a regular channel section having an angle riveted on the top and bottom, and properly spaced to receive and clinch nails driven in from both sides. The plank floor is nailed di-



PLANK SIDING.

Fig. 4.

rectly upon the upper side, while the lower side is protected by plaster boards or other non-combustible material. By reason of the inclination the angle makes with the main web, the nails or spikes are held in place with a force far exceeding that of one driven into a timber.

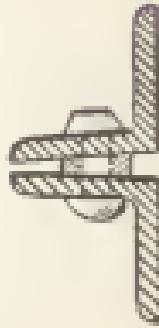
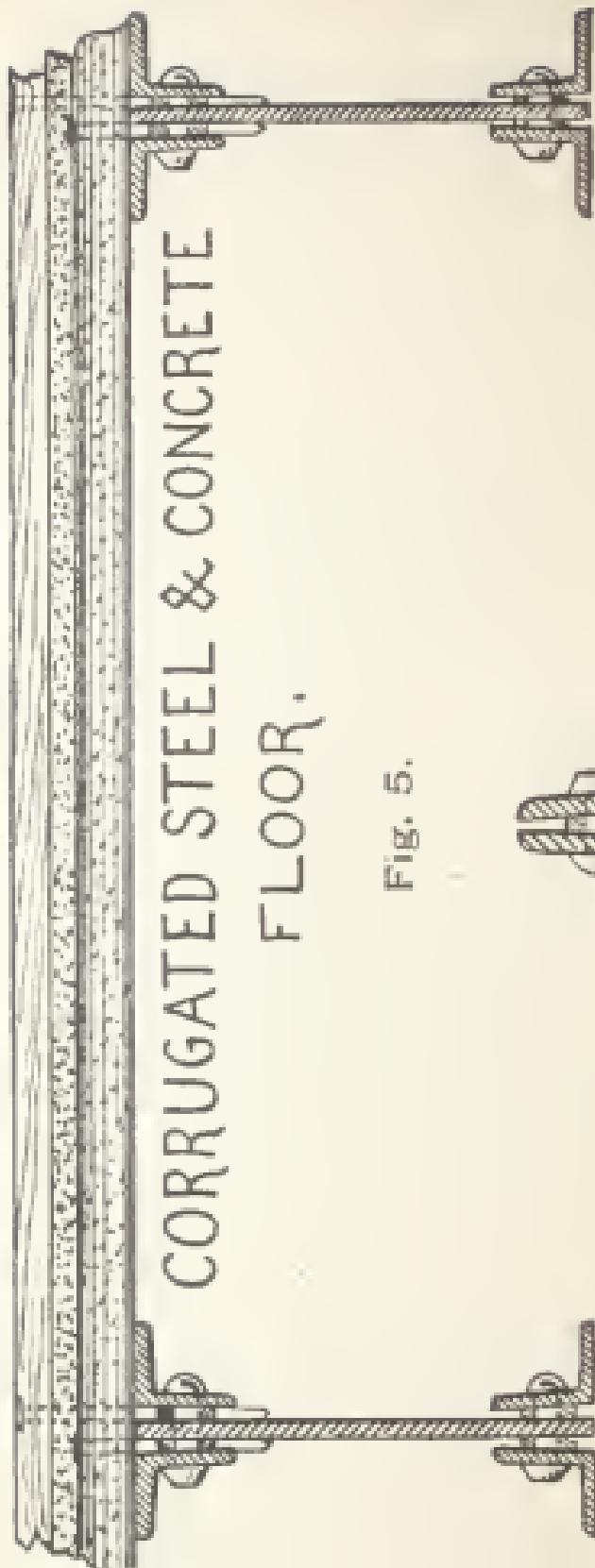
Fig. 4 shows ordinary corrugated iron siding nailed directly to the studding, which in this case is a regular Z bar provided with the necessary angle pieces and spacing washers between. The inner side may either be sheathed with plank, plaster board, wire lathing or any other suitable material directly nailed on.

Fig. 5 shows a floor construction consisting of corrugated sheet steel of sufficient strength, nailed directly to the I X L Beams. The corrugations or furrows above are preferably filled in with concrete or other suitable material, and a wearing floor is then laid on top. This latter may either be of narrow stuff or of tile, asphalt or other material.

This method of making floors may also

CORRUGATED STEEL & CONCRETE  
FLOOR.

Fig. 5.



be readily used for roofs, both flat or inclined. Where sufficiently flat, tar paper and gravel may be used on top of the corrugated steel.

Fig. 6 shows a section suitable for partitions or for ceilings. Where used for the latter they are fastened between the floor beams; where used for partitions they are fixed top and bottom with angle iron knees in the usual way.

For bridge floors this method of fastening will be more suitable than bolts, because the nail or spike hole will be more water-tight on account of the compression of the wood around such nail or spike, which is not the case where a special hole has to be bored for the bolt. This also applies to ship and boat decks.

For cotton and other mill floors the I X L Beams are specially applicable, as a stiffer floor can be made with less timber and with greater spacing of posts, thus interfering less with arrangement of machinery and saving cost in foundations. A further advantage is the ease with which

hangers, string pieces for same, or bearers of any kind can be fastened to the lower side of the beam without any extra drilling or weakening of the flanges thereof. This is specially the case where these sections are used as columns or posts.

The I X L Sections can be made of any desirable strength, the only conditions necessary being that the standard shapes furnished by the regular rolling mills be used. These mills make so many different shapes, that almost an infinite number of variations can be made with them in designing the various combinations required for any particular purpose in the construction of floors, walls, roofs or partitions.



*To obtain full details, prices and further particulars, address,*

**The I X L Structural Steel Co.,**

**143 LIBERTY STREET,**

**NEW YORK.**



## Advantages of the I X L Sections.

They are fire-proof.

They will not shrink in any direction.

They will permit of boards, planks, corrugated iron, steel, wire lathim and all other fire-proof material to be nailed directly to them.

They take up less room than wooden studding, and make a thinner and stronger partition.

They are labor-saving in making attachments and connections.

They require no drilling nor punching.

They will reduce insurance rates by lessening the amount of wood work.

They make a superior support for fire-proof floors.

They are adapted for general use in all kinds of metal construction and buildings.

They can be furnished to any dimensions—large or small.

They are of universal utility to Architects, Engineers and Contractors.